

## CLAIMS

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1. A sheath-core composite conductive fiber comprising a sheath component made of a fiber-forming polymer containing conductive carbon black, characterized in that a core component and a sheath component satisfies the following relationship:

$$r/R \leq 0.03 \quad \dots \textcircled{1}$$

where R represents a radius of an inscribed circle of the sheath component and r represents a distance between the centers of two inscribed circles of the core and sheath components in a cross section of the fiber.

2. The sheath-core composite conductive fiber according to claim 1, wherein the carbon black content of the sheath component is within a range from 10 to 50% by weight.

3. The sheath-core composite conductive fiber according to claim 1, wherein a core-sheath ratio is within a range from 20:1 to 1:2 in terms of an area ratio of the core component to the sheath component.

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4. A sheath-core composite conductive fiber comprising:  
a core component made of a polyester containing ethylene terephthalate as a main component, and

a sheath component made of a mixture of a copolyester wherein ethylene terephthalate accounts for 10 to 90 mol % of constituent units thereof and carbon black.

5. The sheath-core composite conductive fiber according to claim 4, wherein the sheath component is polyester prepared by

copolymerizing a copolymerization component selected from the group consisting of isophthalic acid, orthophthalic acid and naphthalenedicarboxylic acid. p 10, lines 4-6

6. The sheath-core composite conductive fiber according to claim 4, wherein a copolymerization ratio of the copolymerization component of the sheath component is within a range from 10 to 50 mol %. *abstract*

7. The sheath-core composite conductive fiber according to claim 4, wherein the carbon black content of the sheath component is within a range from 10 to 50% by weight. *4-15*

8. The sheath-core composite conductive fiber according to claim 4, wherein a core-sheath ratio is within a range from 20:1 to 1:2 in terms of an area ratio of the core component to the sheath component.